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<div>7590 02/09/2009</div> <div>Michael E. Carmen, Esq. M. CARMEN & ASSOCIATES, PLLC Suite 400 170 Old Country Road Mineola, NY 11501</div>				
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ANTHONY, JOSEPH DAVID				
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEPHEN H. ROBY
and SUSANNE G. RUELAS

Appeal 2009-0197
Application 10/674,643
Technology Center 1700

Decided:¹ February 9, 2009

Before ADRIENE LEPIANE HANLON, CHARLES F. WARREN, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 CFR § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

A. STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from an Examiner's decision rejecting claims 1-31, all of the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

The following Examiner's rejections are before us on appeal:

Claims 1-11, 15, 18-22, and 26-31 are rejected under 35 U.S.C. § 102(b) as anticipated by Kodali.²

Claims 12 and 23 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Kodali.

Claims 1-31 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Lal³ and Kodali.

The claims on appeal are directed to a lubricating oil composition. Claim 1 is representative of the subject matter on appeal and reads as follows:

1. A lubricating oil composition comprising (a) a major amount of a base oil of lubricating viscosity and (b) a minor deposit-inhibiting effective amount of a reaction product prepared by transesterifying at least one glycerol ester with at least one non-glycerol polyol ester.

App. Br. 17, Claims Appendix.⁴

B. ISSUES

The following issues are before us on appeal:

- (1) Have the Appellants shown that the Examiner reversibly erred in finding that Kodali describes a lubricating oil composition comprising (a)

² US 6,278,006 B1 issued to Kodali et al. on August 21, 2001.

³ US 5,338,471 issued to Lal on August 16, 1994.

⁴ Appeal Brief dated August 3, 2007.

major amount of a base oil and (b) a minor amount of a reaction product as recited in claims 1 and 15?

(2) Have the Appellants shown that the Examiner reversibly erred in finding that claims 12 and 23 are anticipated by Kodali?

(3) Have the Appellants shown that the Examiner reversibly erred in concluding that the lubricating oil composition recited in claims 1 and 15 would have been obvious to one of ordinary skill in the art in view of the combined teachings of Lal and Kodali?

(4) Have the Appellants shown that the Examiner reversibly erred in finding that Lal suggests a base oil as recited in claims 16 and 17?

C. FINDINGS OF FACT

The following findings of fact are supported by a preponderance of the evidence. Additional findings of fact as necessary appear in the Analysis portion of the opinion.

1. Appellants' Specification

The disclosed lubricating oil compositions include, as a first component, a major amount of a base oil of lubricating viscosity, e.g., an amount of at least 40 weight percent. Spec. 10:4-7.

The base oil may be derived from natural lubricating oils, synthetic lubricating oils, or mixtures thereof. Spec. 11:8-9.

Useful natural oils include vegetable oils, e.g., rapeseed oils, castor oils, and lard oil. Spec. 11:18-21.

The second component of the disclosed lubricating oil composition is a reaction product, preferably obtained from the transesterification of at least one glycerol ester and at least one non-glycerol polyol ester. Spec. 15:6-8.

According to the Appellants, representative reaction products and their preparation are disclosed in US 6,278,006 (Kodali), which is incorporated by reference into the Appellants' Specification. Spec. 15:11-13.

2. Kodali

Kodali discloses a method for improving lubrication properties of a vegetable oil. Lubrication properties can include wear properties, viscosity, or crystallization temperature. The method includes transesterifying the vegetable oil with a short chain fatty acid ester. Kodali 1:49-53.

Example 4 of Kodali discusses the results of transesterifying vegetable oils with short chain fatty acid esters. Kodali 10:57-58. In particular, Kodali discloses:

A statistical model based on a random distribution was developed to determine how the long chain fatty acids of IMC 130 oil TAGs and the short chain fatty acids of the non-glycerol ester would be distributed when short chain fatty acid esters were transesterified with IMC-130 oil at different concentrations. The model constructed for the transesterification of IMC-130 oil and TMPTH is shown in FIG. 3. Transesterifying about 20-25% TMPTH by weight with IMC-130 oil yields a large number of TAGs with one short chain, and modifies over 70% of the original TAGs found in IMC-130.

Kodali 10:58-11:1.

Kodali Figure 3 is reproduced below:

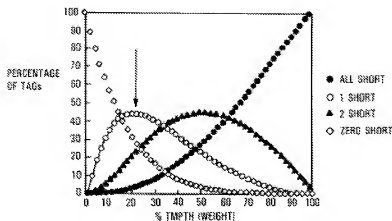


FIG. 3

Figure 3 is a graph of the predicted fatty acid distribution of the TAGs of TMPTH and IMC-130 transesterified products. Kodali 3:31-32.

Kodali discloses that IMC-130 is from Intermountain Canola, Idaho Falls, Idaho. Kodali 10:10-11. The Examiner found that IMC-130 is canola oil. *See* Ans. 3-4.⁵

Kodali discloses that canola oil is a useful rapeseed oil. Kodali 4:6-7.

“TAGs” is an abbreviation for “triacylglycerols” which contain three fatty acid chains esterified to a glycerol moiety. Kodali 1:14-16.

“TMPTH” is an abbreviation for trimethylolpropane triheptanoate which is a polyol ester. Kodali 5:20-42.

3. Lal

Lal discloses a lubricant comprising (A) at least one vegetable or synthetic triglyceride, (B) esters from the transesterification of at least one animal or vegetable oil triglyceride, (C) a pour point depressant, and (D) a performance additive. Lal 3:60-66.

⁵ Examiner’s Answer dated December 4, 2007.

Lal discloses that the vegetable or synthetic triglyceride (i.e., component (A)) may be present in a major amount. Lal 53:5-15.

Lal discloses that the lubricant may optionally contain at least one oil selected from the group consisting of a synthetic ester base oil, a mineral oil, a polyalphaolefin, and a vegetable oil. Lal 50:59-51:18. These optional oils are present in an amount of 5 to 25 parts by weight of the lubricant. Lal 53:16-28.

D. PRINCIPLES OF LAW

A claim is anticipated if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

Furthermore, a claimed invention is not patentable if the subject matter of the invention would have been obvious to a person having ordinary skill in the art at the time the invention was made. 35 U.S.C. § 103(a); *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007); *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 13 (1966).

The test for obviousness is not that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

A person of ordinary skill is not an automaton but is a person of ordinary creativity. *KSR*, 127 S. Ct. at 1742. One of ordinary skill in the art is presumed to have skills apart from what the prior art references expressly disclose. *In re Sovish*, 769 F.2d 738, 742 (Fed. Cir. 1985).

E. ANALYSIS

1. Issue (1)⁶

The Examiner found that Kodali describes oils containing transesterified reaction products of triacylglycerol polyol ester, such as IMC-130 canola oil, and a non-glycerol polyol ester, such as TMPH. Ans. 3.

The Examiner further found:

Applicant's claims are deemed to be anticipated over the Example 4 wherein a model is constructed for the transesterification of IMC-130 canola oil and TMPH as shown in FIG. 3. A review of FIG. 3 clearly shows that at lower concentrations of TMPH reactant (lower than about 15 wt.%), the concentration of the *transesterified reaction product* of IMC-130 canola oil and TMPH is in a *minor amount* compared to the concentration of the *unreacted* IMC-130 canola oil which would be in a *major amount*. Under said circumstances, applicant's claims are deemed to be clearly anticipated. [Emphasis in original.]

Ans. 3-4.

The Appellants recognize that the reaction product of IMC-130 oil and TMPH corresponds to a reaction product within the scope of claims 1 and 15. App. Br. 7. Moreover, the Appellants do not point to any error in the Examiner's finding that at lower concentrations of TMPH reactant, i.e., lower than about 15 weight percent, the concentration of the unreacted IMC-130 canola oil is present in a major amount compared to the concentration of the transesterified reaction product of IMC-130 canola oil and TMPH.

Instead, the Appellants argue that any unreacted components resulting from the reaction of IMC 130 oil and TMPH would merely be a part of the

⁶ The Appellants do not argue the patentability of claims 2-11, 18-22, and 26-31 separately from the patentability of claims 1 and 15.

claimed reaction product and would not constitute a base oil within the scope of claims 1 and 15. App. Br. 8.

The Appellants' argument is not persuasive of reversible error. Claims 1 and 15 recite a lubricating oil composition comprising (a) a major amount of a base oil and (b) a minor amount of a reaction product. The Appellants disclose that the base oil may be derived from natural lubricating oils, such as vegetable oils, and exemplary vegetable oils include rapeseed oils. Spec., 11:8-9, 18-21. Canola oil is a rapeseed oil. Kodali 4:6-7. Thus, we find that the "base oil" recited in claims 1 and 15 includes Kodali's unreacted IMC-130 canola oil.

Figure 3 is a graph depicting compositions comprising unreacted IMC-130 canola oil and a transesterified reaction product of IMC-130 canola oil and TMPH. According to Figure 3, at TMPH concentrations lower than 15 weight percent, the compositions comprise a major amount⁷ of unreacted IMC-130 canola oil and a minor amount of the transesterified reaction product. For this reason, we find that Kodali describes a composition within the scope of claims 1 and 15 and anticipates the claimed composition. See *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 781 (Fed. Cir. 1985) (graph data point corresponding to an alloy on which the claims read anticipated the claimed alloy).

2. Issue (2)

The Appellants do not point to any error in the Examiner's findings with respect to the rejection of claims 12 and 23 under § 102(b). Rather, the

⁷ The Appellants define a "major amount" as at least 40 weight percent. Spec. 10:4-7.

Appellants argue that claims 12 and 23 are patentable for the same reasons that claims 1 and 15 are patentable over Kodali. App. Br. 8.

As discussed above, the Appellants have failed to show reversible error in the Examiner's rejection of claims 1 and 15 under § 102(b). Thus, the Appellants have likewise failed to show reversible error in the Examiner's rejection of claims 12 and 23 under § 102(b).

The Appellants also argue that claims 12 and 23 would not have been obvious over Kodali. App. Br. 9-11.

However, since the Appellants have not demonstrated reversible error in the Examiner's rejection of claims 12 and 23 under § 102(b), it is not necessary to decide whether the Appellants have demonstrated reversible error in the Examiner's rejection of claims 12 and 23 under § 103(a). See *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) ("anticipation is the epitome of obviousness" (citing *In re Fracalossi*, 681 F.2d 792, 794 (CCPA 1982))).

3. Issue (3)⁸

The Examiner found:

Lal teaches a composition containing the combination of:
(A) at least one vegetable or synthetic triglyceride, (B) esters from the transesterification of at least one animal or vegetable oil triglyceride, (C) a pour point depressant, and (D) a performance additive.

Ans. 5. The Appellants recognize as much. Br. 11.

The Examiner found that the transesterified product disclosed in Lal (i.e., component (B) identified above) is different from the transesterified

⁸ The Appellants do not argue the patentability of claims 2-14 and 18-31 separately from the patentability of claims 1 and 15.

product recited in claims 1 and 15 (i.e., reaction product (b)). Nonetheless, the Examiner found that Kodali discloses a transesterified product within the scope of the transesterified product recited in claims 1 and 15 and teaches that the product has beneficial properties. The Examiner concluded that it would have been obvious to one of ordinary skill in the art to use the transesterified product disclosed in Kodali in lieu of or in addition to the transesterified product disclosed in Lal. Ans. 5-6.

The Appellants argue that Kodali is not concerned with adding a transesterified product to a vegetable oil, but rather is concerned with replacing a vegetable oil with a transesterified product. Thus, the Appellants argue it would not have been obvious to replace or supplement the transesterified product of Lal with the transesterified product of Kodali. Reply Br. 6.⁹

The Appellants' argument is not persuasive of reversible error. Kodali would not have discouraged one of ordinary skill in the art from adding the disclosed transesterified product to a vegetable oil. Indeed, Kodali discloses compositions comprising a vegetable oil in combination with the transesterified product. Kodali 10:65-11:7.

Moreover, Lal discloses a lubricant comprising 40-95 parts by weight of a vegetable or synthetic triglyceride and 10-40 parts by weight of a transesterified product. Lal 53:5-15. In the § 103(a) rejection before us, the Examiner relied on Kodali to establish that a transesterified product within the scope of claims 1 and 15 was known in the art and would have been a suitable substitute for or supplement to the transesterified product disclosed in Lal. *Keller*, 642 F.2d at 425.

⁹ Reply Brief dated February 7, 2008.

Significantly, the Appellants have failed to direct us to any evidence establishing that the transesterified product disclosed in Kodali would not have been suitable for use in the lubricant disclosed in Lal. Thus, absent a showing of unexpected results, it is reasonable to conclude that it would have been obvious to one of ordinary skill in the art to substitute or supplement the transesterified product of Lal with the transesterified product of Kodali.

For the reasons set forth above, the Appellants have failed to show that the Examiner reversibly erred in concluding that the lubricating oil composition recited in claims 1 and 15 would have been obvious to one of ordinary skill in the art in view of the combined teachings of Lal and Kodali.

4. Issue (4)

The Appellants do not point to any error in the Examiner's finding that the lubricant of Lal may optionally contain other oils, such as a mineral oil or a polyalphaolefin oil, in addition to a vegetable or synthetic triglyceride. *See* Ans. 5; Lal 50:59-51:18, 53:16-28. Rather, the Appellants argue that claims 16 and 17 are patentable over the combination of Lal and Kodali because Lal discloses that the optional oils are used in a minor amount, not in a major amount as claimed. Reply Br. 6.

Claim 15 recites a lubricating oil composition comprising "a major amount of a base oil." Claims 16 and 17, which depend from claim 15, recite that the base oil is "comprised" of a mineral base oil and a polyalphaolefin base oil, respectively. App. Br. 19-20, Claims Appendix.

Contrary to the Appellants' arguments, claims 16 and 17 do not require major amounts of a mineral oil or a polyalphaolefin oil. The claims merely require one component of the base oil to be a mineral oil (claim 16)

or a polyalphaolefin oil (claim 17). These oils may be present in any amount, including an amount within the range disclosed in Lal (i.e., 5-25 parts by weight). *See In re Baxter*, 656 F.2d 679, 686 (CCPA 1981) (“the term ‘comprises’ permits the inclusion of other steps, elements, or materials”). For this reason, we find that the lubricants disclosed in Lal, comprising a mineral oil and/or a polyalphaolefin oil, fall within the scope of claims 16 and 17.

In sum, the Appellants have failed to show that the Examiner reversibly erred in finding that Lal suggests a base oil as recited in claims 16 and 17.

F. DECISION

The decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a) (2008).

AFFIRMED

tc

MICHAEL E. CARMEN, ESQ.
M. CARMEN & ASSOCIATES, PLLC
SUITE 400
170 OLD COUNTRY ROAD
MINEOLA, NY 11501